

**KODIAK MANAGEMENT AREA**  
**COMMERCIAL FOOD/BAIT HERRING FISHERY**  
**HARVEST STRATEGY**  
**1997/98**

By

Dennis Gretsich,  
Dave Prokopowich,  
and  
Kevin Brennan

Regional Information Report<sup>1</sup> No 4K97-43

Alaska Department of Fish and Game  
Commercial Fisheries Management and Development Division  
211 Mission Road  
Kodiak, Alaska 99615

August 1997

---

<sup>1</sup>The Regional Information Report Series was established in 1987 to provide an information access system for all unpublished division reports. These reports frequently serve diverse ad hoc informational purposes or archive basic uninterpreted data. To accommodate timely reporting of recently collected information, reports in this series undergo only limited internal review and may be subsequently finalized and published in the formal literature. Consequently, these reports should not be cited without prior approval of the author or the Commercial Fisheries Management and Development Division.

## TABLE OF CONTENTS

	<u>Page</u>
LIST OF TABLES.....	i
LIST OF FIGURES .....	i
INTRODUCTION .....	1
HARVEST STRATEGIES.....	1
KAMISHAK HERRING STOCKS .....	2
KODIAK FOOD/BAIT HARVEST STRATEGY.....	3
MANAGEMENT DISTRICTS.....	4
GUIDELINE HARVEST LEVELS .....	4
Kodiak Spawning Stocks .....	4
Kamishak Spawning Stocks.....	5
GHL Summary .....	5
REGULATIONS .....	5
Season Dates.....	5
Fishing Periods.....	5
Closed Waters.....	6
Interim Use and Registration Permits Required .....	6
Interim Use Permit.....	6
Registration Permit .....	6
Legal Gear Restrictions.....	6
EMERGENCY ORDER ANNOUNCEMENTS.....	7
REPORTS REQUIRED BY PERMIT HOLDERS.....	7
PERMIT HOLDER COOPERATION .....	8
TABLES .....	9
FIGURES .....	12

## LIST OF TABLES

<u>Table</u>	<u>Page</u>
1. Kodiak Management Area 1997/98 food/bait herring fishery guideline harvest level (GHL) by district and 1997 sac roe herring fishery GHLs and harvests .....	9

## LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1. Map of southcentral Alaska showing the Kodiak and Cook Inlet herring management areas, along with the location of Kamishak Bay and Shelikof Strait .....	12
2. Kodiak food and bait herring management districts, (FB1, FB2, FB4, FB5, FB11, and FB12) which are affected by the harvest of Kamishak Bay herring .....	13
3. Kodiak food and bait management area north of the latitude of Miner's Point which would be closed if the Kamishak Bay herring biomass is below 8,000 tons .....	14
4. Kodiak Area food/bait herring fishery districts and key to enlarged maps (1-8) .....	15
5. Map #1, food and bait herring districts 1, 2, 3, and 10, Kodiak Management Area .....	16
6. Map #2, food and bait herring districts 4 and 5, Kodiak Management Area .....	17
7. Map #3, food and bait herring district 7, Kodiak Management Area .....	18
8. Map #4, food and bait herring district 8, Kodiak Management Area .....	19
9. Map #5, food and bait herring district 9, Kodiak Management Area .....	20
10. Map #6, food and bait herring district 11, Kodiak Management Area .....	21
11. Map #7, food and bait herring districts 6 and 12, Kodiak Management Area .....	22
12. Map #8, food and bait herring district 13, Kodiak Management Area .....	23

## **INTRODUCTION**

The Kodiak Management Area (KMA) food/bait herring fishery has a long history, dating back to 1912. Early harvests were primarily utilized for food and reduction products, these harvests far surpassed current levels. Since, the early 1960's the harvest has been utilized primarily as bait for the crab and longline fisheries.

The food/bait herring fishery occurring in the Shelikof Strait portion of the KMA target both Kodiak and Kamishak spawning stocks (Figure 1). Since the sac roe herring fisheries in the Kodiak and Cook Inlet areas are closed-to-entry fisheries, they are treated as primary fisheries. Primary fisheries are managed to provide for the majority of the harvest on stocks during the Kodiak and Kamishak sac roe seasons. The food/bait fishery harvests are smaller and subsequently are treated as secondary fishery. The harvest levels in the food/bait fishery are directly related to the results of the sac roe fisheries of these stocks.

This harvest strategy will summarize regulations which are in affect and how this fishery will be managed during the 1997/98 season.

## **HARVEST STRATEGIES**

During the Alaska Board of Fisheries meeting in Anchorage in November 1992 and in Kodiak in January 1993, new harvest strategies were adopted which direct the management of the KMA food/bait herring fishery. This is the fifth year this fishery will be managed under these harvest strategies. The two regulatory management plans which guide the KMA food/bait herring fishery are 5 AAC 27.365, Kodiak Area Harvest Strategies, and 5 AAC 27.465, the Kamishak Bay District Herring Management Plan.

The Kodiak plan allocates a harvest of herring equal to ten percent (10%) of the previous season's KMA sac roe harvest, by individual management section, to the KMA food/bait fishery. The Kamishak plan also allocates herring to the Kodiak food/bait fishery, because it is known that Kamishak stocks overwinter in the KMA, and have been traditionally taken in this fishery. The allocation allows for a maximum of two percent (2%) of the projected Kamishak biomass. The percent of the Kamishak biomass allocated to the KMA food/bait fishery depends on the annual estimated spawning biomass.

The total harvest within the Shelikof Strait Districts (the North Afognak, West Afognak, Uganik, Uyak, North Mainland, and Mid Mainland food/bait districts) can not exceed the combined Kamishak allocation plus the food/bait guideline harvest levels (GHL) for the individual KMA stocks in the West Afognak, Uganik, and Uyak Districts. For the remainder of the KMA, individual section GHL's are set, based upon ten percent (10%) of the previous season's sac roe harvest.

For the 1997-98 season the preliminary Kamishak allocation is 300 tons. The GHL for the West Afognak and Uganik Districts combined is 215 tons (the Malina Bay and Raspberry Strait Sections of the West Afognak District, the North Afognak District and the Uyak District will remain closed). Therefore when 515 tons is taken in the Shelikof Strait Districts (the West Afognak, Uganik, North Mainland, and Mid Mainland food/bait Districts), these areas will close to further food/bait herring fishing. Individual sections within the Shelikof area may close earlier, dependent on inseason evaluation of the actual fishery and stock abundance. For the remainder of the KMA the guideline harvest totals 77 tons. The South Afognak, Inner Marmot, and Alitak Districts will also remain closed for the 1997/98 season.

## **KAMISHAK HERRING STOCKS**

The 1996-97 Commercial Herring Fishing Regulations, Cook Inlet Area, lists the Kamishak Bay District Herring Management Plan (5 AAC 27.465.) which outlines criteria for the management of the Kamishak Bay sac roe herring fishery and Shelikof Strait food/bait fishery as follows:

### **5 AAC 27.465 Kamishak Bay District Herring Management Plan.**

- a) The purpose of the Kamishak Bay District herring management plan is to describe the management strategies used to set the guideline harvest levels for the Kamishak Bay sac roe fishery, and for that portion of the Kamishak Bay stock allocated to the food and bait fishery conducted in the North Afognak Island, West Afognak Island, Uganik, North Mainland, and Mid-Mainland food and bait management units of the Kodiak management area, known as the Shelikof Strait food and bait fishery, as described in (5 AAC 27.535(c)); (Figure 2).
- b) The management year for the Kamishak Bay herring stock is July 1 through June 30.
- c) The allocation of the allowable harvest of the Kamishak Bay herring stock is 90 percent to the Kamishak Bay sac roe fishery, and 10 percent to the Shelikof Strait food and bait fishery.
- d) The guideline harvest level for the fall Shelikof Strait food and bait fishery and the following spring Kamishak Bay sac roe fishery will be based on the projected biomass as determined by the most recent aerial surveys, age class composition, historical mortality, and recruitment trends.
- e) The maximum exploitation rate for the Kamishak Bay herring stock is 20 percent of the spawning biomass, and will be determined as follows:
  - 1) if the spawning biomass is 30,000 short tons or more, the maximum exploitation rate is 20 percent, with 18 percent allocated to the Kamishak sac roe fishery and 2 percent allocated to the Shelikof Strait food and bait fishery;

- 2) if the spawning biomass is 20,000 short tons or more, but less than 30,000 short tons, the maximum exploitation rate is 15 percent, with 13.5 percent allocated to the Kamishak sac roe fishery and 1.5 percent allocated to the Shelikof Strait food and bait fishery;
  - 3) if the spawning biomass is 8,000 short tons or more, but less than 20,000 short tons, the allowable exploitation rate is 10 percent, with 9 percent allocated to the Kamishak sac roe fishery and 1 percent allocated to the Shelikof Strait food and bait fishery;
  - 4) if the spawning biomass is less than 8,000 short tons, the Kamishak Bay sac roe fishery and the Shelikof food and bait fishery north of the latitude of Miner's Point will be closed, (Figure 3).
- f) The management strategy for the Kamishak sac roe fishery is to target the fishery on older age classes, and to limit exploitation rates on younger age class herring (age five and younger) to 10 percent or less.
  - g) The allocation of Kamishak Bay herring stocks to the Shelikof Strait food and bait fishery will be based on the spawning biomass of age five and older herring and not on the biomass of juveniles. The quantity of herring stocks aged four years and younger caught in the Shelikof Strait food and bait fishery will be adjusted to approximate the biomass of a similar number of age five herring.

### **KODIAK FOOD/BAIT HARVEST STRATEGY**

The management plan that guides the KMA food/bait fishery is described in the Kodiak Area 1996-97 Commercial Herring Fishing Regulation 5 AAC 27.535. The 1997/98 Kodiak Harvest Strategy combines the Kamishak food/bait guideline harvest level (GHL) with the Kodiak GHL for the West Afognak, Uganik, and Uyak food/bait management districts. Intermixing of the Kodiak and Kamishak herring stocks occurs during the winter months on the west side of the Kodiak Island group. Actual inseason management is guided by the following regulation:

#### **5 AAC 27.535. HARVEST STRATEGIES.**

- a) Except as otherwise provided in this section, the department shall manage the herring food/bait fishery so that the food/bait harvest does not exceed 10 percent of the actual Kodiak herring sac roe harvest in the previous season.
- b) The department shall manage the herring food/bait fishery in waters set out in the Afognak District (5 AAC 27.505 (a)(1)-(5)), in the Uganik District (5 AAC 27.505(b)) and Uyak District (5 AAC 27.505(c)) so that the total harvest does not exceed the sum of (1) the allowable harvest of the Kamishak spawning stock that overwinter in the Shelikof Strait as determined under the Kamishak Bay District herring management plan (5 AAC 27.465) and (2) GHL set for the food/bait fishery in these waters as provided in (c), (Figure 2).

- c) The GHL for the herring food/bait fishery in waters set out in the Afognak District (5 AAC 27.505 (a)(1)-(5)), Uganik District (5 AAC 27.505(b)) and Uyak District (5 AAC 27.505(c)) shall not exceed 10 percent of the herring sac roe harvest of the previous season in these waters.
- d) When the Kamishak Bay herring spawning biomass is below 8,000 short tons the department shall close the food/bait fishery in Shelikof Strait north of the latitude of Miner's Point, (Figure 3).

## **MANAGEMENT DISTRICTS**

To accommodate this harvest strategy, thirteen (13) food/bait management districts are utilized to include geographical groupings of sac roe stocks and adjacent offshore areas.

Each food/bait management district consists of several sac roe herring fishery management sections, Figures (4-12). Each food/bait management district GHL is based upon 10% of the total sac roe herring harvest which occurred within the food/bait management district boundaries.

## **GUIDELINE HARVEST LEVELS**

The 1997/98 food/bait GHL for the KMA will be affected by the following management considerations:

### ***Kodiak Spawning Stocks***

For Kodiak spawning stocks, as described in 5 AAC 27.535(a) Harvest Strategies, the department shall limit the food/bait harvest to 10% of the previous spring's sac roe harvest on a stock by stock basis (Table 1). Harvest levels on Kodiak stocks in the adjacent offshore areas will reflect the combined food/bait GHL for the sac roe stocks included within that management district. A maximum of 292 tons properly distributed throughout the KMA will be the food/bait guideline harvest on Kodiak spawning stocks.

The herring stocks within food/bait management districts F/B 2 North Afognak, F/B 3 South Afognak, F/B 10 Inner Marmot (Figure 5), and the F/B 5 Uyak (Figure 6) have declined. The sac roe and food/bait fisheries have been closed in these areas since 1995 and will be closed for the 1997/98 season. Several additional areas will also be closed to food/bait herring fishing for the 1997/98 season and include, the Malina Bay and Raspberry Strait Sections of the West Afognak District (F/B 1) and the entire Alitak District (F/B 7). The two sections of the West Afognak District were closed for the 1997 sac roe fishery due to declining stock abundance. The Alitak District experienced fair to poor fishery performance for the 1997 sac roe fishery which indicated

the stock abundance has declined. To prevent further exploitation on these stocks these areas will be closed to commercial food/bait herring fishing for the entire 1997/98 season.

### ***Kamishak Spawning Stocks***

Determination of the 1998 Kamishak spawning biomass and associated fishery GHL's is under review at this time. The Lower Cook Inlet Area ADF&G biologists preliminary allocation to the KMA food/bait herring fishery is estimated at 300 tons. This allocation may change, pending a final harvest projection for the Kamishak Bay sac roe fishery.

As discussed in 5 AAC 27.535(b) Harvest Strategies, the GHL's for the Kodiak food/bait management districts F/B 1 and F/B 4 will be combined with the Kamishak Bay herring allocation.

The Kamishak Bay GHL of 300 tons plus the Kodiak stock combined GHL's for food/bait units F/B 1 and F/B 4 of 215 tons, gives a combined GHL of 515 tons for the Shelikof Strait fishery management units. When the 515 ton GHL is reached or approached, the following management districts will be closed collectively to further food/bait herring fishing, F/B 1, F/B 4, F/B 11, and F/B 12, Figure 2. Herring harvested in food and bait management units F/B 11 and F/B 12 are attributed to the Kamishak Bay GHL.

<b><i>GHL Summary</i></b>		
Shelikof Strait Fishery	300 Tons	Kamishak Allocation
	<u>215 Tons</u>	Kodiak Stocks (F/B 1 and 4)
	515 Tons	Total
Remainder of the Kodiak Area	77 Tons	
Total for the entire Kodiak Area	592 Tons	Total

## **REGULATIONS**

### ***Season Dates***

From August 1, 1997 through February 28, 1998, unless closed by emergency order.

### ***Fishing Periods***

Open to continuous fishing from 12:01 A.M. 8/1/96 to 12:00 P.M. 2/28/97 unless superseded by emergency order closures. However, if effort and harvest levels escalate, there may be a need to establish set fishing periods to maintain an orderly fishery. Changes in fishing periods will be made by subsequent emergency orders.



### ***Closed Waters***

The following food/bait herring management units and sections will be closed for the entire 1997/98 season. The Raspberry Strait and Malina Bay Sections of the West Afognak District (F/B 1), North Afognak District (F/B 2), South Afognak District (F/B 3), Uyak District (F/B 5), Alitak District (F/B 7), and the Inner Marmot District (F/B 10). Additional closed water areas are included in the 1996-97 Commercial Herring Fishing Regulations (page 57) 5 AAC 27.530 WATERS CLOSED TO HERRING FISHING.

Further, permit holders should be aware that all closed waters as described in the 1996-98 Kodiak Salmon Fishing Regulations (5 AAC 18.350) (pages 58-62) are in effect for the food/bait fishery from August 1 through October 31, 1997.

### ***Interim Use and Registration Permits Required***

An Interim Use Permit is required before a registration permit will be issued. Interim use permits are issued from the Commercial Fisheries Entry Commission in Juneau for the following gear types:

- H01K Purse Seine
- H34K Gillnet
- H07K Trawl

#### **Registration Permit - Kodiak ADF&G Office**

- All permit holders, tender operators, and processors are required to register with the Kodiak ADF&G office prior to fishing.

Registration Permit will be used for:

- Monitoring fleet size by gear type.
- Clarifying catch reporting procedures, closed water areas, and inseason emergency order announcement procedures.

### ***Legal Gear Restrictions***

Following are the gear restrictions by type for purse seine, gillnet, and trawl gear for the Kodiak Food/Bait Fishery.

#### **Gear Code**

- 01 - Purse Seines
  - Maximum length: 150 fathoms

- Maximum depth: 1,625 meshes. For Area K there are no web size restrictions.
  - Lead length unrestricted.
- 34 - Gillnets
- Maximum length: 150 fathoms; mesh size: 2-1/8" to 2-1/2".
  - No depth restrictions.
- 07 - Trawl
- No restrictions

Consult the 1995-96 Commercial Herring Fishing Regulations for a complete listing of all regulations.

### **EMERGENCY ORDER (E.O.) ANNOUNCEMENTS**

It is important for KMA food/bait fishers to be aware of emergency order management district closures. This can be accomplished by 1) personal contact with the Kodiak ADF&G management staff, via office visits or by calling 486-1830, 2) contacting Kodiak ADF&G management staff on SSB radio frequency 3.230 MHz, 3) contacting local herring processors, 4) calling the Kodiak ADF&G recorded message phone at 486-4559, 5) listening for an emergency order update which will be broadcasted at 8:00 A.M. and 6:00 P.M. after the marine weather on SSB radio frequency 4.125 MHz or 6) by picking up the most recent emergency order from the holder mounted outside the Kodiak ADF&G office.

The ADF&G vessel R/V K-Hi-C may be present on the fishing grounds and will initiate management unit closures once GHL's are achieved. The R/V K-Hi-C can be reached on VHF channel 6 or SSB radio frequency 3.230 MHz. The crew of the R/V K-Hi-C will also contact fishers in person to inform them of closures and obtain harvest data.

### **REPORTS REQUIRED BY PERMIT HOLDERS**

All herring landings during the food/bait season must be verbally reported to ADF&G by permit holders before the product is totally unloaded at the dock.

The following phone numbers will reach Fish and Game personnel 24 hours per day:

- ADF&G Office: Monday through Friday  
8:00 A.M. to 4:30 P.M. - 486-1807 or 486-1830.
- After Office Hours: 4:30 P.M. to 8:00 A.M.  
- 487-4919 (Dave Prokopowich)

- 486-3031 (Dennis Gretsich)
- 486-6475 (Kevin Brennan)

All fish tickets must be completed and sent to the Kodiak Fish and Game office within a week of the landing. Send to:

Alaska Department of Fish and Game  
Commercial Fisheries Management and Development Division  
ATTN: Dave Prokopowich  
211 Mission Road  
Kodiak, Alaska 99615

### **PERMIT HOLDER COOPERATION**

Department personnel will conduct confidential skipper interviews to obtain biomass estimates, average school size, and herring distribution data. Additionally, permit holder and processor cooperation will be appreciated when Department personnel request herring samples. These samples will be used to determine age composition, and length and weight characteristics of the commercial harvest.

Table 1. Kodiak Management Area 1997/98 food/bait herring fishery guideline harvest level (GHL) district and 1997 sac roe herring fishery GHL's and harvests.

Food/Bait Mgt. District	Sac Roe Management Units		1997 Sac Roe Fishery		1997/98 Food/Bait Fishery GHL (Tons)
	Stat. #	Name	GHL (Tons)	Harvest (Tons)	
F/B 1 West Afognak Unit	WA10	Raspberry Strait	Closed	0	Closed
	WA20	Malina Bay	Closed	0	Closed
	WA31	Paramanof Bay	700	686	69
	WA32	Foul Bay	100	183	18
	WA40	Devils Inlet/Bluefox B.	20	0	0
	WA50	Offshore W. Afognak	Exploration	0	Exploration
	<b>District Total</b>		<b>820</b>	<b>869</b>	<b>87</b>
F/B 2 North Afognak Unit	NA10	Shuyak Island	20	0	Closed
	NA20	Delphin Bay	Closed	0	Closed
	NA30	Perenosa Bay	Closed	0	Closed
	NA40	Seal Bay	Closed	0	Closed
	NA50	Tonki Bay	Closed	0	Closed
	<b>District Total</b>		<b>20</b>	<b>0</b>	<b>Closed</b>
F/B 3 South Afognak Unit	SA10	Izhut Bay	Closed	0	Closed
	SA20	Kitoy Bay	Closed	0	Closed
	SA30	MacDonalds Lagoon	Closed	0	Closed
	SA40	Danger Bay	Closed	0	Closed
	SA50	Litnik	Closed	0	Closed
	SA60	Duck Bay	Closed	0	Closed
	<b>District Total</b>		<b>Closed</b>	<b>0</b>	<b>Closed</b>
F/B 4 Uganik Unit	UG10	Kupreanof	10	0	0
	UG20	Viekoda Bay	75	56	6
	UG21	Terror Bay	250	251	25
	UG30	Village Island	250	336	34
	UG31	W. Uganik Passage	20	169	17
	UG32	NE. Arm Uganik	30	101	10
	UG33	East Arm Uganik	125	120	12
	UG34	South Arm Uganik	180	237	24
	UG40	Offshore Uganik	Exploration	0	Exploration
	<b>District Total</b>		<b>940</b>	<b>1,270</b>	<b>128</b>
F/B 5 Uyak District	UY10	Offshore Uyak	Closed	0	Closed
	UY20	Harvester Island	Closed	0	Closed
	UY30	Inner Uyak Bay	Closed	0	Closed
	UY31	Larsen Bay	Closed	0	Closed
	UY32	Browns Lagoon	Closed	0	Closed
	UY40	Zachar Bay	Closed	0	Closed
	UY50	Spiridon Bay	Closed	0	Closed
	<b>District Total</b>		<b>Closed</b>	<b>0</b>	<b>Closed</b>

-Continued-

Table 1. (page 2 of 3)

Food/Bait Mgt. District	Sac Roe Management Units		1997 Sac Roe Fishery		1997/98 Food/Bait Fishery GHL (Tons)
	Stat. #	Name	GHL (Tons)	Harvest (Tons)	
F/B 6 Sturgeon/ Halibut Unit	SH10	Sturgeon/Halibut	Exploration	0	Exploration
F/B 7	AL10	Outer Alitak	Exploration	0	Closed
Alitak Unit	AL20	Inner Alitak	Exploration	1	Closed
	AL21	Inner Deadman Bay	40	0	Closed
	AL22	Outer Deadman Bay	50	10	Closed
	AL30	Sulua Bay	240	199	Closed
	AL31	Portage Bay	75	94	Closed
	AL40	Lower Olga/Moser	15	0	Closed
	AL41	N.Upper Olga Bay	10	0	Closed
	AL50	Upper Olga Bay	40	0	Closed
	AL60	Geese/Twoheaded	15	15	Closed
	<b>District Total</b>		<b>485</b>	<b>319</b>	<b>Closed</b>
F/B 8	EA10	Kaiugnak	20	0	0
Eastside Unit	EA20	SW. Sitkalidak	20	0	0
	EA21	Three Saints Bay	40	31	3
	EA22	Newman Bay	20	0	0
	EA23	W.Sitkalidak Bay	100	6	1
	EA24	Barling Bay	50	49	5
	EA30	East Sitkalidak Strait	200	42	4
	EA31	Tanginak Anchorage	15	0	0
	EA40	Outer Sitkalidak	Exploration	0	Exploration
	EA41	Boulder Bay	Exploration	2	Exploration
	EA42	Shearwater Bay	90	143	14
	EA43	Outer Kiliuda Bay	90	113	11
	EA44	Inner Kiliuda Bay	90	146	15
	EA50	Outer Ugak Bay	60	40	4
	EA51	Inner Ugak Bay	90	114	11
	EA52	Pasagshak Bay	15	16	2
	<b>District Total</b>		<b>900</b>	<b>702</b>	<b>70</b>
F/B 9	NE10	Womens Bay	30	1	0
Northeast Unit	NE20	Kalsin Bay	10	22	2
	NE30	Middle Bay	10	0	0
	NE40	Inshore Chiniak	10	0	0
	NE50	Offshore Chiniak	Exploration	0	Exploration
	<b>District Total</b>		<b>60</b>	<b>23</b>	<b>2</b>

-Continued-

Table 1. (page 3 of 3)

Food/Bait Mgt. District	Sac Roe Management Units		1997 Sac Roe Fishery		1997/98 Food/Bait Fishery GHL Tons
	Stat. #	Name	GHL (Tons)	Harvest (Tons)	
F/B10 Inner Marmot Unit					
	IM10	Monashka Bay	Exploration	0	Closed
	IM20	Anton Larsen Bay	Closed	0	Closed
	IM30	Sharatin Bay	Closed	0	Closed
	IM40	Kizhuyak Bay	Closed	0	Closed
	IM50	Spruce Island	10	0	Closed
		<b>Distict Total</b>	<b>10</b>	<b>0</b>	<b>Closed</b>
F/B11 North Mainland Unit	NM10	Hallo Bay	Exploration	0	Exploration
	NM20	Inner Kukak	25	8	1
	NM30	Outer Kukak	Exploration	0	Exploration
	NM40	Missak Bay	Exploration	0	Exploration
		<b>Distict Total</b>	<b>25</b>	<b>8</b>	<b>1</b>
F/B 12 Mid-Mainland Unit	MM10	Inner Katmai	50	31	3
	MM20	Outer Katmai	Exploration	0	Exploration
	MM30	Alinchak	30	0	0
	MM40	Puale Bay	Exploration	0	Exploration
	MM50	Portage Bay	Exploration	0	Exploration
	MM60	Outer Portage-Puale	Exploration	0	Exploration
		<b>Distict Total</b>	<b>80</b>	<b>31</b>	<b>3</b>
F/B 13 South Mainland Unit	SM10	Wide Bay	95	11	1
	SM20	Lower Shelikof	Exploration	0	Exploration
		<b>Distict Total</b>	<b>95</b>	<b>11</b>	<b>1</b>
		<b>Grand Total</b>	<b>3,435</b>	<b>3,233</b>	<b>292</b>

<sup>a</sup> The Kodiak Management Area total GHL for the food/bait fishery, as indicated in the 1996/97 Herring Regulations, is managed so that the food/bait harvest does not exceed 10% for the actual sac roe herring harvest in the previous season. The GHL figures are rounded to the nearest ton.

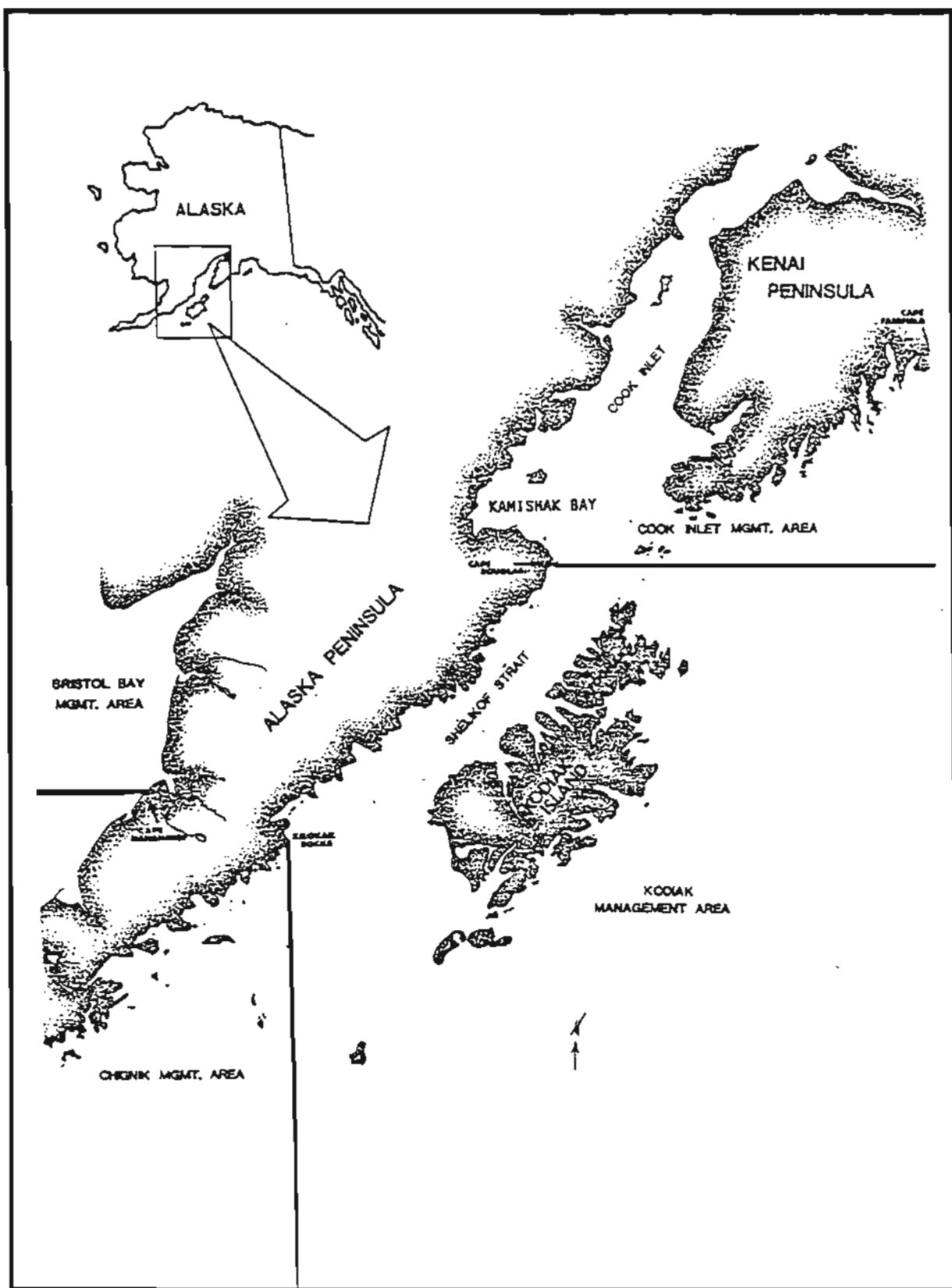


Figure 1. Map of southcentral Alaska showing the Kodiak and Cook Inlet herring management areas, along with the location of Kamishak Bay and Shelikof Strait.

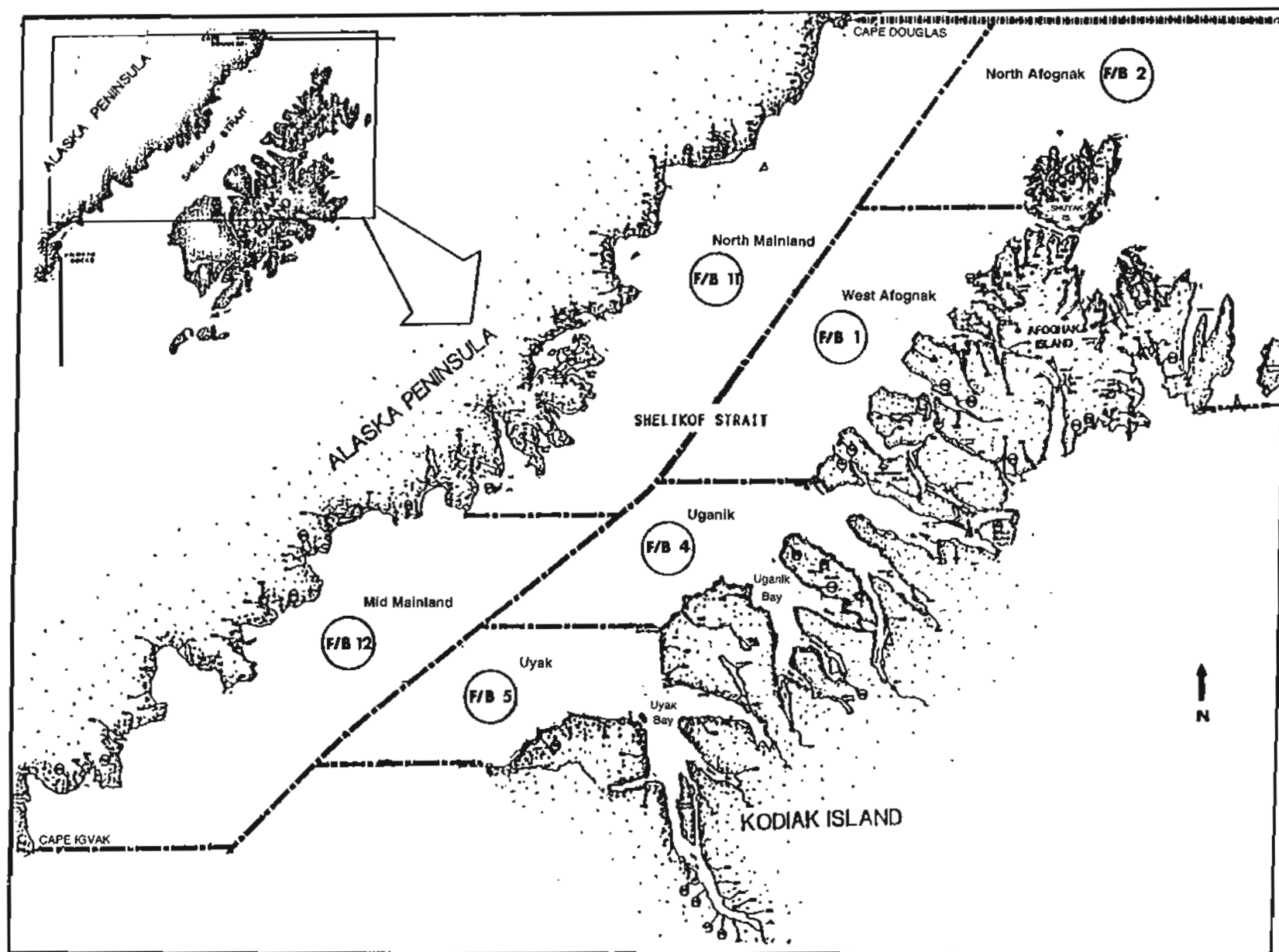


Figure 2. Kodiak food and bait herring management districts (F/B1, F/B2, F/B4, F/B5, F/B11, and F/B12) which are affected by the harvest of Kamishak Bay herring.



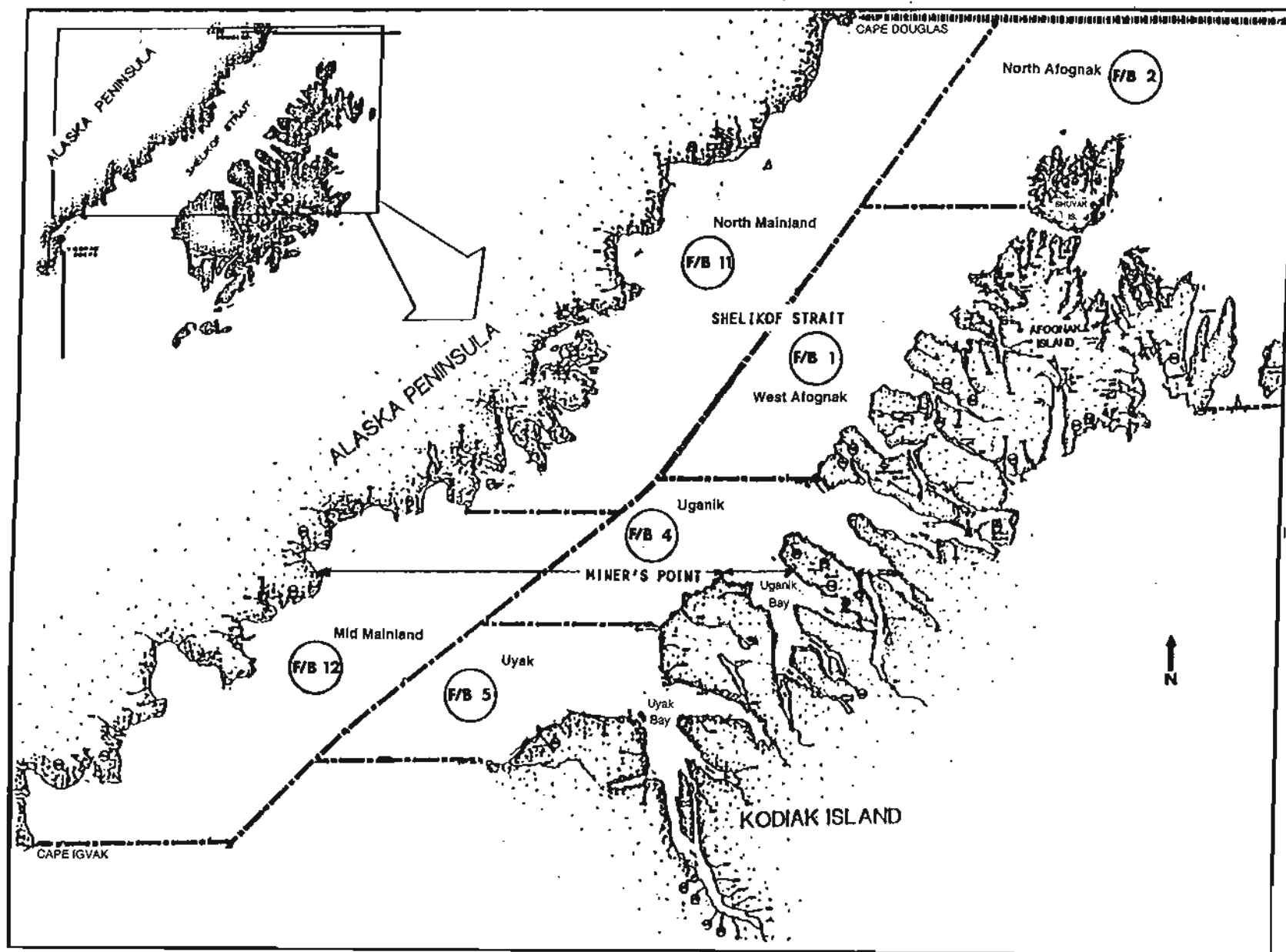


Figure 3. Kodiak food and bait management area north of the latitude of Miner's Point which would be closed if the Kamishak Bay herring biomass is below 8,000 tons.

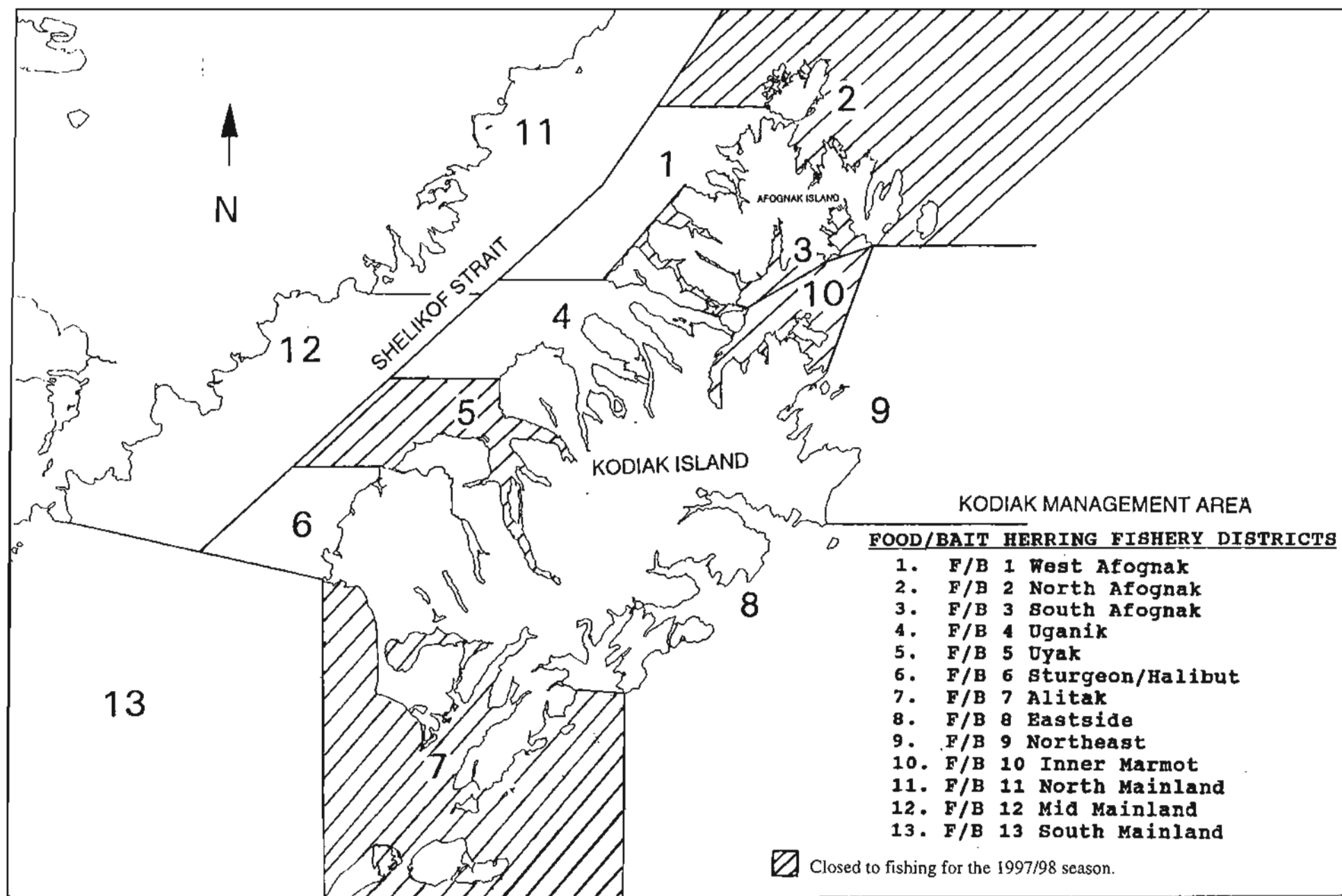


Figure 4. Kodiak Area food/bait herring fishery districts and key to enlarged maps. (1-8).

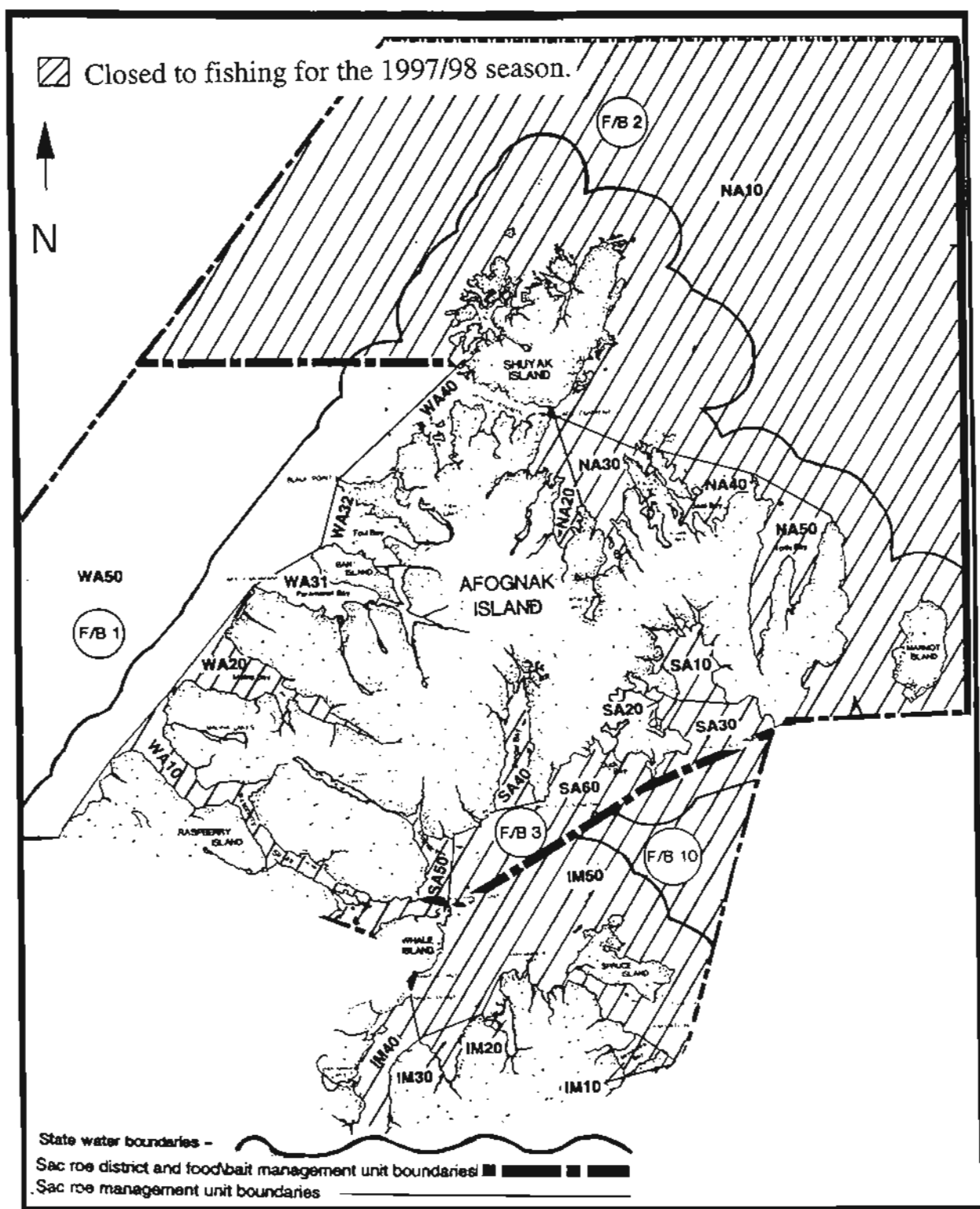


Figure 5. Map #1, food and bait districts 1, 2, 3, and 10, Kodiak Management Area.

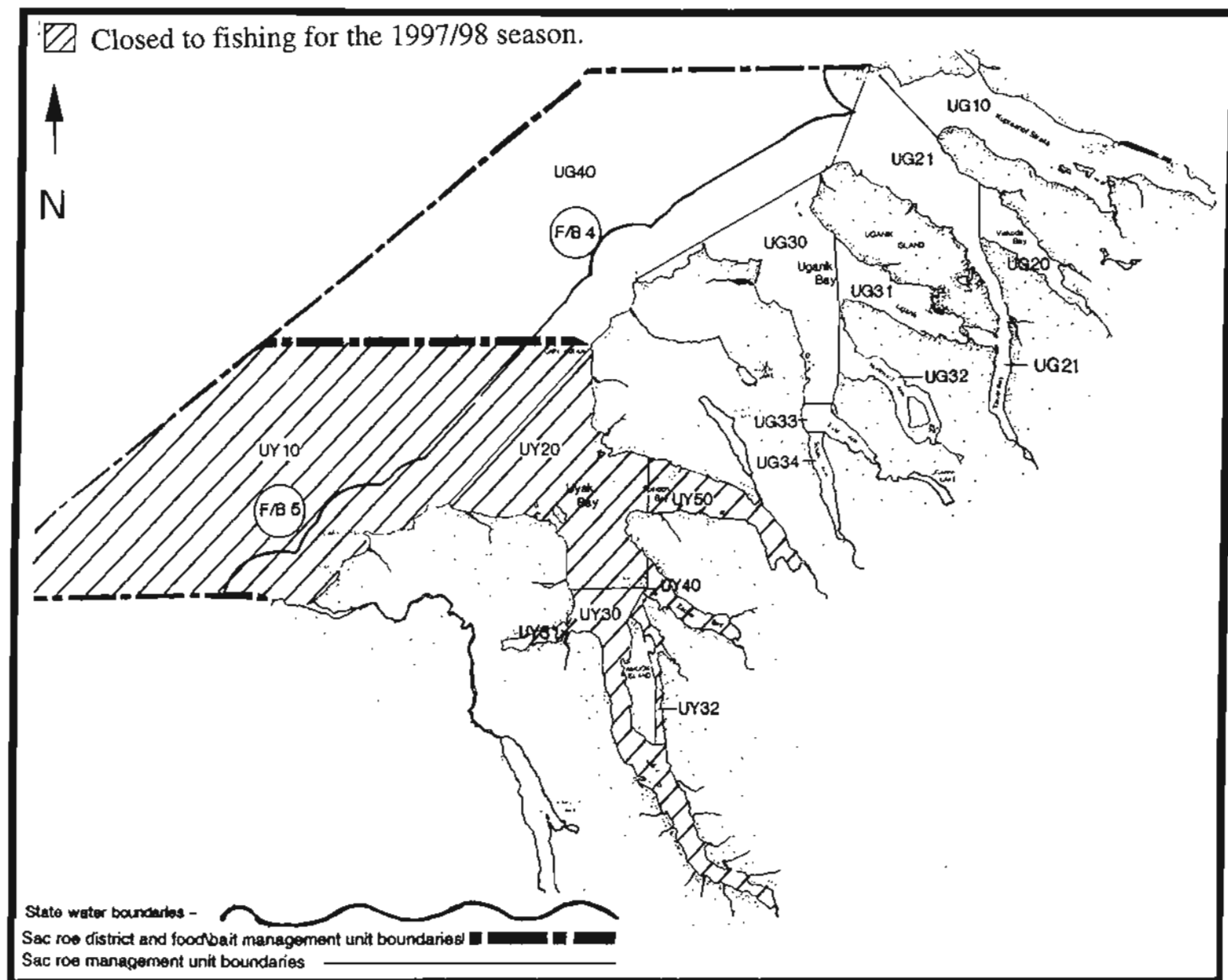


Figure 6. Map #2, food and bait herring districts 4 and 5, Kodiak Management Area.

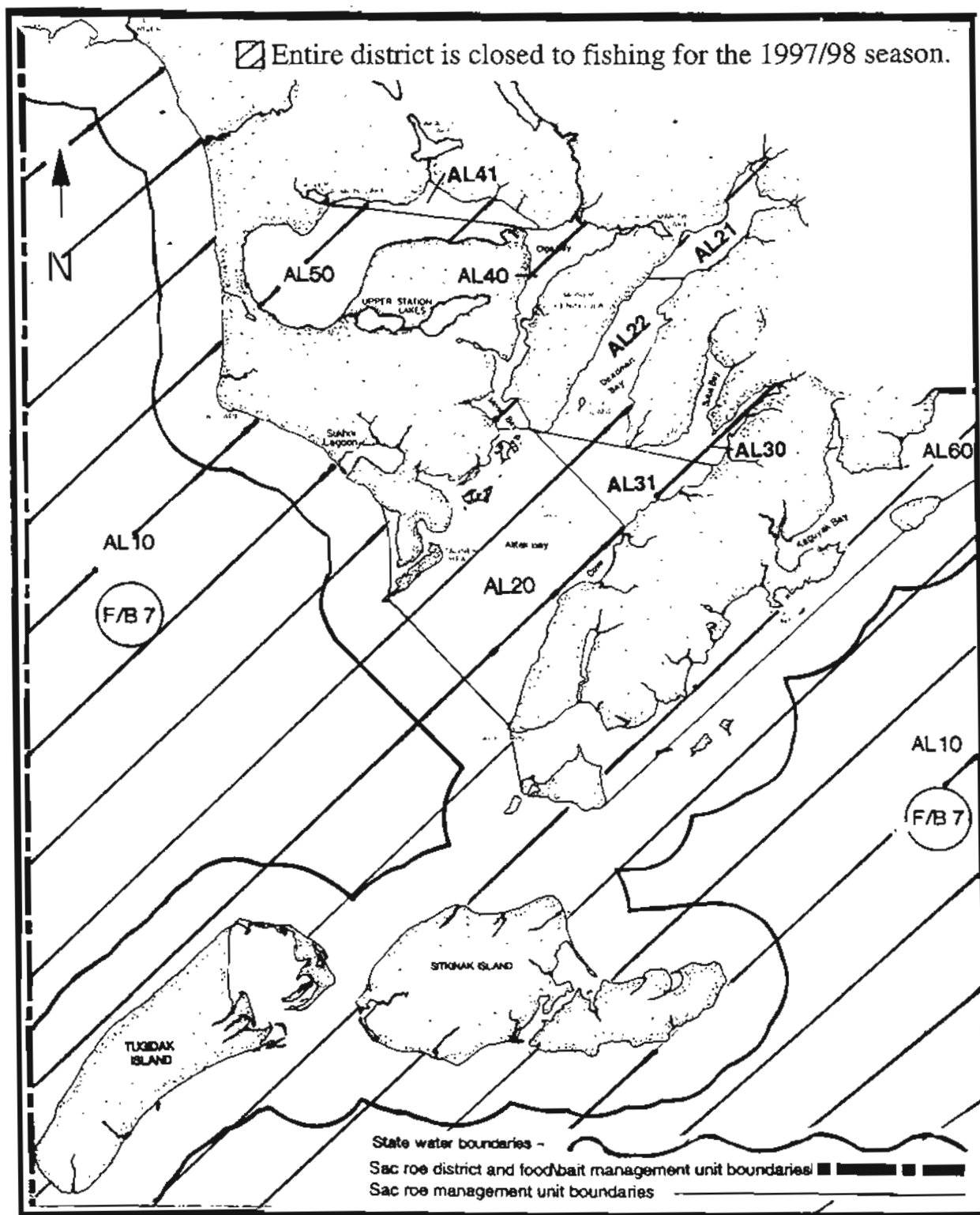


Figure 7. Map #3, food and bait herring district 7, Kodiak Management Area.

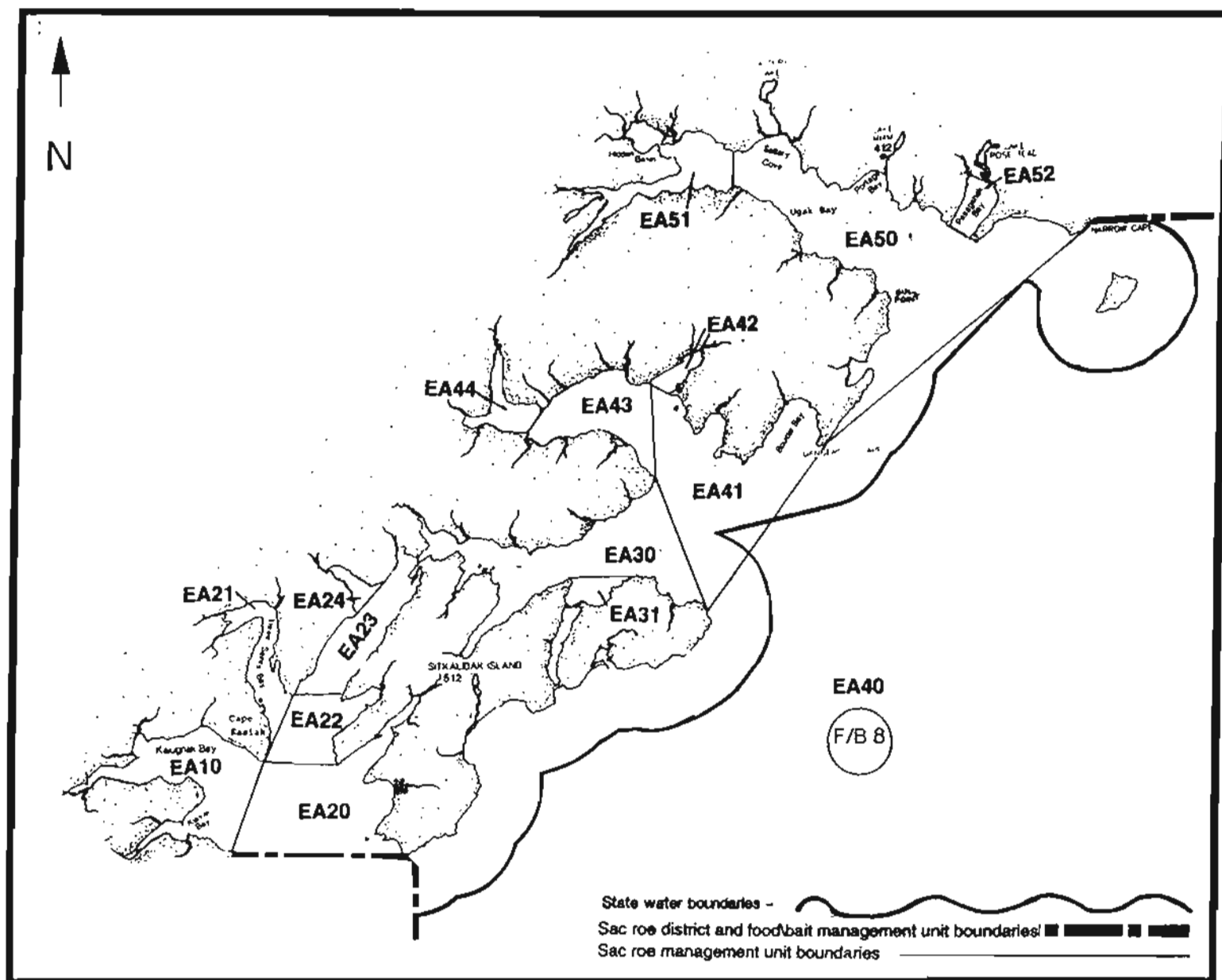


Figure 8. Map #4, food and bait herring district 8, Kodiak Management Area.

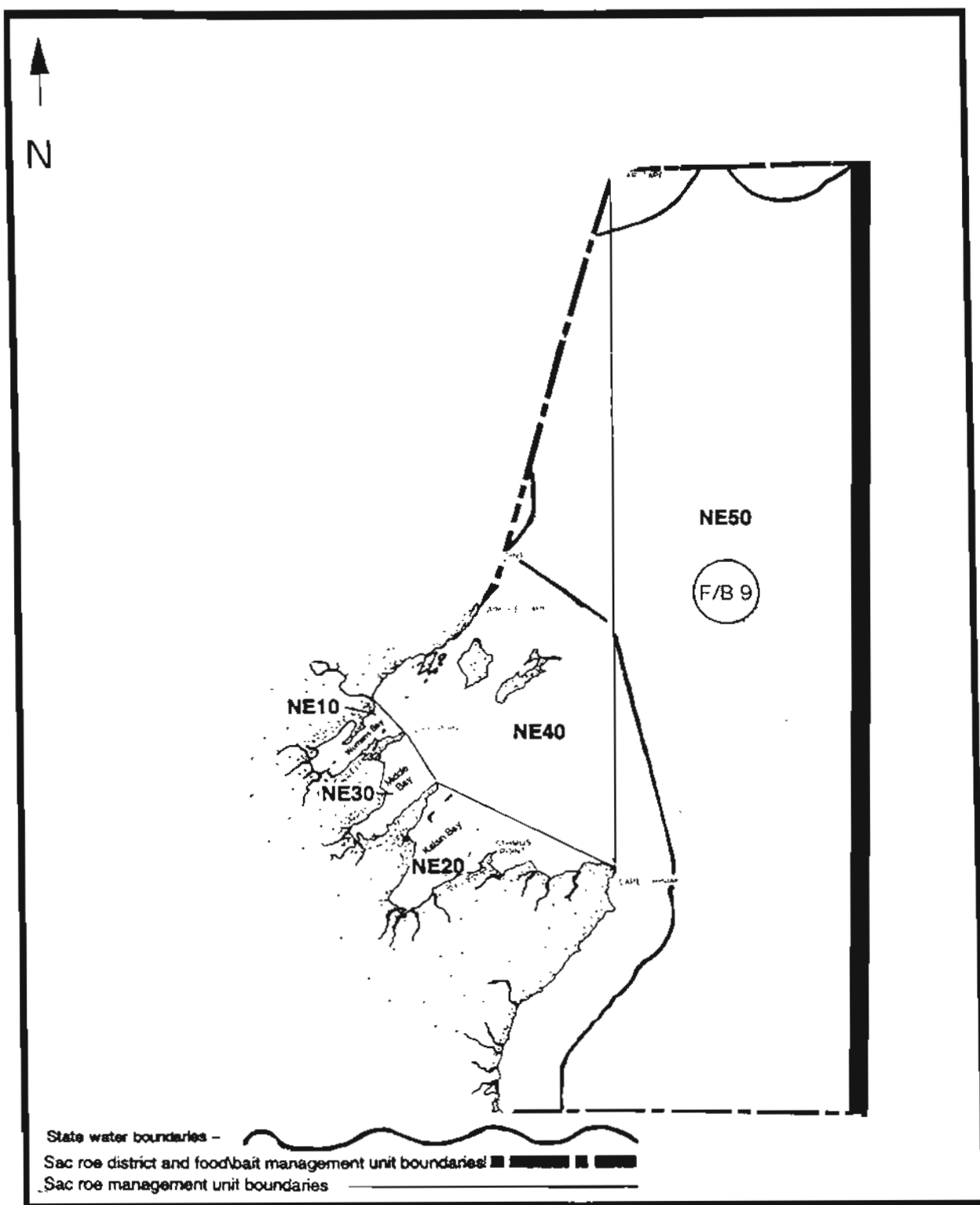


Figure 9. Map #5, food and bait herring district 9, Kodiak Management Area.





Figure 11. Map #7, food and bait herring districts 6 and 12, Kodiak Management Area.

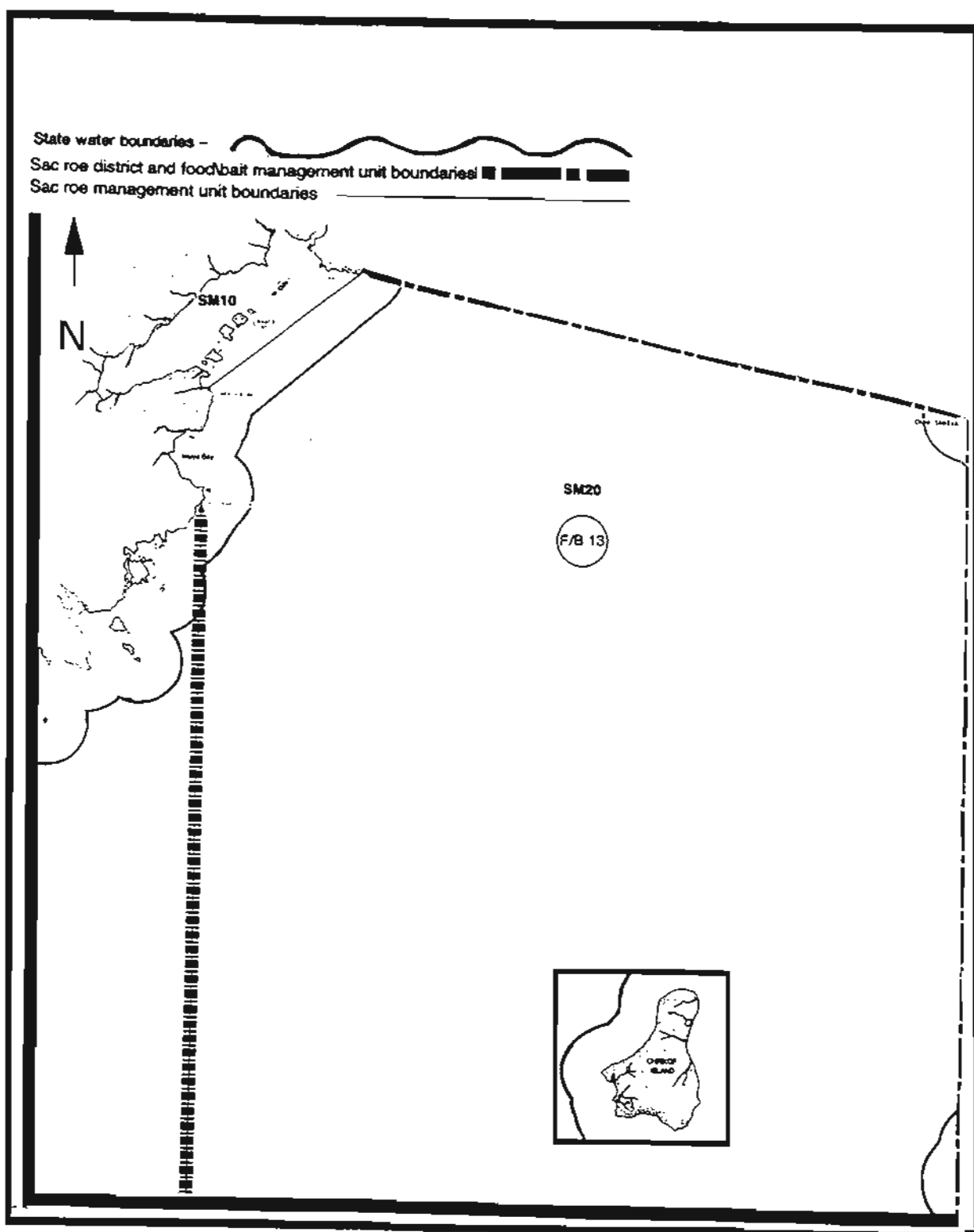


Figure 12. Map #8, food and bait herring district 13, Kodiak Management Area.

The Alaska Department of Fish and Game administers all programs and activities free from discrimination on the basis of sex, color, race, religion, national origin, age, marital status, pregnancy, parenthood, or disability. For information on alternative formats available for this and other department publications, contact the department ADA Coordinator at (voice) 907-465-4120, or (TDD) 907-465-3646. Any person who believes s/he has been discriminated against should write to: ADF&G, PO Box 25526, Juneau, AK 99802-5526; or O.E.O., U.S. Department of the Interior, Washington, DC 20240.